

Impact of Cartagena Protocol on Developing Countries

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ABSTRACT:

Cartagena Protocol acts as an important baseline to national legislation and will have implications for the trade in GMOs and many Asian countries including India who is a signatory of this convention. The article highlights the key elements of the protocol and some measure to adhere to precautionary principle enshrined in the protocol

Keywords: Biotechnology, GMO, Precautionary principle, R & D

INTRODUCTION

The convention on Biological Diversity is the main international instrument for addressing biodiversity issues and provides a comprehensive and holistic approach to the conservation of biological diversity, the sustainable use of natural resources and the fair and equitable sharing of benefits deriving from the use of genetic resources.

The Cartagena Biosafety Protocol (CBP) represents a legally binding international agreement ratified by 136 governments as of 2006. The objective of the protocol is “to contribute to ensuring an adequate level of protection in the field of the safe transfer, handling and use of genetically modified organisms (GMO) resulting from modern biotechnology that may have adverse effects on the conservation and sustainable use of biological diversity, taking into account risks to human health, and specifically focussing on transboundary movements”.

The protocol recognises that modern biotechnology has great potential for human well being if developed and used with adequate safety measures for the environment and human health. The protocol refers to the use of precautionary approach contained in Principle 15 of the Rio Declaration on Environment and Development.

COMPONENTS OF CARTAGENA PROTOCOL

The protocol as a base line

The overriding consideration is that domestic regulations or any action taken must be consistent with the provisions and/or objectives of the Protocol. So domestic laws can provide, for example, for GMOs not covered by

the Protocol; impose requirements beyond the Protocol and, in particular, provide for a stricter level of risk assessment and risk management. Such laws are being promulgated by several countries of the South. In most of these countries the scope and extent of the coverage is being broadened. In such a situation the restriction of the preceding discussion to the ambit of the Protocol will no longer apply.

The following are some of the key elements of the protocol:

- Research and scientific consensus
- Precautionary principle
- Public understanding

1. Research

A. Scope

Research is a component of development and the requirements must be adhered to in the R&D of GMOs covered by the protocol for its eventual commercialisation. Research and development must take into account the possible risk assessment and management requirements of the importer; and overcome the public perception of the safety, worth and need for the GMO to be exported.

B. Scientific consensus and risk management

There is a lack of clear scientific knowledge in many developing countries and no clear scientific consensus available and hence risk may exist. Indeed one of the methodological approach suggested by Annex III where there is uncertainty regarding the level of risk is the implementation of appropriate risk management

strategies and/or monitoring the GMOs in the receiving environment. The provision certainly imposes added obligations on researchers to design their R&D in a manner that takes into account the prevailing divided opinion on the risks associated with the development of GMOs.

In the mean time while all these issues are clarified, researchers in the region have to strengthen their technological capabilities not only to develop the GMOs adapted to the different kinds of soils and weathers, but also to be able to negotiate with third parties the importation of GMOs from elsewhere (Ramirez, 2003).

2. Precautionary principle

One element that is new and that may have potential impact is the need to adhere to the precautionary principle. This principle is clearly embedded in the protocol. The objective of risk assessment as set out in Annex III is 'to identify and evaluate the potential adverse effects of GMO on the conservation and sustainable use of biological diversity in the likely potential receiving environment.' Generally a GMO is developed to express the trait of the inserted gene. Then approval is sought for the introduction of the GMO on an experimental basis in contained conditions (say a greenhouse); and then it moves to unlimited use in the fields or the wider community. These steps represent ongoing research and development of the GMO for its eventual commercialisation. The precautionary approach could alter the content and duration of these steps in rather important and crucial ways.

3. Public understanding

This new or modern biotechnology has captured the attention of scientists, entrepreneurs, financiers, policymakers, governors, journalists and the public in general; however this field is very dynamic and changes rapidly. International campaigns have been launched by some environmentalist groups appealing the public and governments to reject or ban the use of agricultural and modern biotechnology agri-food products, based on non-scientific arguments, exploiting the fear of the unknown, and taking advantage of the low level of public understanding on biotechnology issues.

Thus, the public (children, consumers, farmers and workers) have the right to be informed and the

responsibility to learn about biotechnology and to deal with it.

OBJECTIVES OF CBP

The objective of the CBP explicitly makes the precautionary approach as set out in Principle 15 of the Rio Declaration the overriding basis for the attainment of the objective of the Protocol.

A. Capacity building

Capacity building of professionals from Asian regional centres is required in order to;

- Develop and strengthen training and research capacities in bio-safety.
- Risk assessment and management of agricultural and agri-food biotechnology, with special emphasis in the objectives of the Cartagena Protocol.
- Legal implication for the region.
- To identify and select professionals to be trained as regulators in technical commissions in their own countries.

B. Needs based focus

This will be necessary to see the application and its wider acceptance.

- The research should focus on an assessment of the need for the technology.
- Prescriptive use would serve the purpose better and more efficiently.

C. Precautionary principle and the accurate assessment

Application of the precautionary principle in the assessment of genetic technology rests upon reasonably accurate exposure estimates.

- Developing an adequate database of expression levels and environment fate with a longer time period.
- *Dealing with uncertainty* - The more irreversible the consequences, the more conservative should the approving authority be with approvals at every stage. Public researchers should be involved and they should be independently funded. This will redirect and broaden the scope and thrust of the agenda for research and development of a GMO -

from the commercial impetus and needs of industry to the needs of farmers, society, consumers and the global marketplace.

- *Initiation of risk-associated research* - This makes it imperative that there be an initiation of risk-associated research as well as for the elaboration of more satisfactory risk assessment methods and procedures. The basis of the research should be the precautionary principle.
- Liability for analysing and taking due account of the ongoing processes in international law on matters of GMOs.

D. Extended Research

The precautionary approach will focus on defining when and where the technology would be used. The research should be

- By the applicants (to justify approvals for planting elsewhere);
- By farmers (requiring them to experiment with resistance management strategies); and
- By public sector researchers (expressions levels in various tissues and over time, ecological impacts and the impacts on soil microbial communities).

This would provide better information and some field experience for the decision-making process; it could also serve as an early warning system, catching possible impacts.

E. Wider research participation

- Research undertaken by applicants, farmers and public sector researchers with incremental levels, trials based on confidence.
- More rigorous data collection, sampling and assessment of expression levels over a longer test period.
- Adherence to a proven and effective management plan.

F. Increased focus on impacts on human health

Increased focus on concerns over resistance and resistance management will be a part of this objective.

CONCLUSIONS

Developing countries are likely to be net importers on GM and associated products. As such issues of biosafety and liability are of paramount importance in developing countries and research and development based on the precautionary principle enshrined in the protocol is essential.

For a start, the case by case approach coupled with the need to take into account the receiving environment, and the need to adhere to the precautionary principle – all made necessary in the risk assessment/management scheme of the CBP suggests that it would not be possible to envisage ‘eventually ... a global system whereby a product is tested once and approved everywhere’. This dream of industry runs counter to the core element of the Protocol.

The public and the private sectors should jointly undertake efforts through exhibitions, publications, and media awareness to address public concerns on bio-safety of biotechnological products and applications. Publications should give simple, precise, and easy-to-understand impartial facts about biotechnology to students or the interested public. Education is another way to address biotechnology in schools. To demystify biotechnology is also crucial to avoid misunderstandings or extremist position.

DISCLAIMER

The opinions expressed in this article are exclusively those of the authors. They should not be considered necessarily those of the institute or any particular organization, or imply any commitment by the organization to any particular course of action.

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